



MMG 3545
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Jeffrey A. Martin et al.

Art Unit 1616

Serial No. 10/059,564

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Confirmation No. 7937

For OPTIMUM DENSITY TERMITIC BAIT COMPOSITION

Examiner Neil S. Levy

October 8, 2004

DECLARATION OF BRIAN T. FORSCHLER

TO THE COMMISSIONER FOR PATENTS,

SIR:

I, Brian T. Forschler, hereby declare as follows:

1. Attached is a copy of my curriculum vitae which details my educational background and professional achievements in the field of entomology.
2. On behalf of Whitmire Micro-Gen Research Laboratories, Inc., I carried out a wagon wheel choice test to determine the feeding difference in feeding termites three different baits, i.e. pine wood, powdered cellulose and a compressed cellulose bait matrix prepared in accordance with the disclosure in the above-identified patent application. The latter cellulose bait matrix was prepared using Lattice NT-020 microcrystalline cellulose from FMC Corporation subjected to a compaction pressure of 8590 lbs. and resulted in a composition having a density of 1.1 g/cc.

In the wagon wheel choice test, the three different test materials were placed in different, separate arenas, the pine wood in one container, the loose powdered cellulose in a second container and the compressed cellulose tablet in a third container. Each of these containers was then attached to a central container by means of tubing. Termites were released into the central container and could freely choose which of the other three containers they wish to visit and the food material they want to feed on.

When termites find a food resource which they prefer, they will then recruit other termites to that feeding site.

* Attached hereto is a graph illustrating the test results and the feeding difference between pine wood, powdered cellulose and compressed cellulose tablet made in accordance with the above-identified patent application. As can be seen, the compressed cellulose tablet was highly preferred by the termites over the other two choices, i.e. pine wood and powdered cellulose.

3. In my opinion, persons skilled in the art of preparing termite bait compositions would have the knowledge required to determine the density of compacted compositions.

4. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the document or any patent issuing thereon.

Date: 10-21-04

Brian T. Forschler
BRIAN T. FORSCHLER

SECTION III - VITA

1. ACADEMIC HISTORY

NAME: Brian T. Forschler
DEPARTMENT: Entomology
PRESENT RANK: Associate Professor

PROPORTION TIME ASSIGNMENTS:

Instruction 0% *Research* 100% *Public Service* 0%

TENURE STATUS: Tenured

GRADUATE FACULTY APPOINTMENT: Full appointment

ACADEMIC RECORD:

<u>Degree</u>	<u>Institution</u>	<u>Major Field</u>	<u>Field</u>
B.S.	University of Kentucky	Entomology	1985
M.S.	University of Kentucky	Entomology	1987
Ph.D.	University of Georgia	Entomology	1990

ACADEMIC POSITIONS:

<u>Year</u>	<u>Organization</u>	<u>Position</u>
1986 - 1988	University of Kentucky	Principal Laboratory Technician
1987 - 1990	University of Georgia	Graduate Research Assistant
1988	University of Georgia	Student Assistant Insect Identification Specialist
1988 - 1990	Mercer University	Adjunct Instructor
1990 - 1991	University of Arkansas	Research Associate
1991 - 1994	University of Georgia	Research Scientist
1994 - 2000	University of Georgia	Assistant Professor
2000 - Present	University of Georgia	Associate Professor

2. RESIDENT INSTRUCTION AND CONTINUING EDUCATION

Dr. Forschler has had no EFT allocation in teaching. However, he has developed and is currently teaching an undergraduate class entitled Urban Entomology (ENTO 3590) each Spring semester and a graduate level course (ENTO 8590) that is taught every other Fall. He has served as the major advisor for 3 MS candidates, and the advisory committee of a MS candidate in the MPPPM Program. He is currently the major advisor

of 2 MS and 1 Ph.D. candidate and is active in the Center for Undergraduate Research Opportunities and the Honors Faculty Mentor Program.

3. SCHOLARLY ACTIVITIES

A. Publications:

- * Denotes Refereed Publications
- ** Denotes Invited Papers
- Denotes Graduate Student Publications
- Denotes Principle Investigator Publications

Chapters in Books:

- **1. Forschler, B.T. 1998. Subterranean termite biology in relation to prevention and removal of structural infestation. In: NPCA Research Report on Subterranean Termites. G. Baumann (ed.) National Pest Control Association, Dunn Loring, VA.

Journal Articles:

- * 1. Forschler, B.T. and G.L. Nordin. 1988. Comparative pathogenicity of selected entomogenous nematodes to the hardwood borers *Prionoxystus robiniae* Peck (Lepidoptera: Cossidae) and *Megacyllence robiniae* Forester (Coleoptera: Cerambycidae). *J. Invertebr. Pathol.* 52: 343-347.
- * 2. Forschler, B.T. and G.L. Nordin. 1988. Suppression of carpenterworm, *Prionoxystus robiniae*, (Lepidoptera: Cossidae) with the entomogenous nematodes, *Steinernema feltiae* and *S. bibionis*. *J. Kan. Entomol. Soc.* 61: 346-348.
- * 3. Forschler, B.T. and G.L. Nordin. 1988. Impact of *Beauveria bassiana* on the cottonwood borer, *Plectrodera scalator*, (Coleoptera: Cerambycidae) in a commercial cottonwood nursery. *J. Entomol. Sci.* 24: 186-190.
- * 4. Forschler, B.T. and G.L. Nordin. 1988. Techniques for rearing the wood borers *Prionoxystus robiniae*, (Lepidoptera: Cossidae) and *Paranthrene dollii*, (Lepidoptera: Sessidae). *Florida Entomol.* 72: 224-226.
- * 5. Forschler, B.T., J.N. All, and W.A. Gardner. 1990. *Steinernema feltiae* activity and infectivity in response to herbicide exposure in aqueous and soil environments. *J. Invertebr. Pathol.* 55: 375-379.
- * 6. Forschler, B.T. and W.A. Gardner. 1990. A review of the scientific literature on the biology and distribution of the genus *Phyllophaga* (Coleoptera: Scarabaeidae) in the Southeastern United States. *J. Entomol. Sci.* 25: 628-651.

- * 7. Forschler, B.T. and G.L. Nordin. 1991. Instar determination in the cottonwood borer, *Plectrodera scalator* (Fab.) (Coleoptera: Cerambycidae). Coleopterist Bulletin. 45: 165-168.
- * 8. Forschler, B.T. and W.A. Gardner. 1991. Flight activity and relative abundance of phytophagous Scarabaeidae attracted to blacklight traps in Georgia. J. Agri. Entomol. 8: 179-187.
- * 9. Forschler, B.T. and W.A. Gardner. 1991. Concentration/mortality response of *Phyllophaga hirticula* (Knoch) (Coleoptera: Scarabaeidae) to three entomogenous nematodes. J. Econ. Entomol. 84: 841-843.
- * 10. Forschler, B.T. and W.A. Gardner. 1991. Field efficacy and persistence of entomogenous nematodes in the management of white grubs in turf and pasture. J. Econ. Entomol. 84: 1454-1459.
- * 11. Forschler, B.T. and W.A. Gardner. 1991. Parasitism of *Phyllophaga hirticula* (Knoch) (Coleoptera: Scarabaeidae) by *Heterorhabdus heliothidis* and *Steinernema carpocapsae*. J. Invertebr. Pathol. 58: 396-407.
- * 12. Forschler, B.T. and S.Y. Young. 1992. Diet and susceptibility of *Helicoverpa zea* (Noctuidae: Lepidoptera) to a nuclear polyhedrosis virus. Environ. Entomol. 21: 1220-1223.
- 13. Young, S.Y. and B.T. Forschler. 1992. Evaluation of *Bacillus thuringiensis* products for control of a mixed VBC:GCW populations on soybean, 1990. Insecticide and Acaricide Tests 17:283-284.
- * 14. Forschler, B.T. and S.Y. Young. 1993. Southern Corn Rootworm adults (Coleoptera:Chrysomelidae) may act as a non-host disseminator of nuclear polyhedrosis virus. J. Invertebr. Pathol. 61:313-318.
- * 15. Forschler, B. T. 1994. Survivorship and tunneling activity of *Reticulitermes flavipes* (Kollar) (Isoptera: Rhinotermitidae) in response to termiticide soil barriers with and without gaps of untreated soil. J. Entomol. Sci. 29:43-54.
- * 16. Forschler, B. T. and G.M. Evans. 1994. Argentine ant (Hymenoptera: Formicidae) foraging activity response to selected containerized baits. J. Entomol. Sci. 29: 209-214.
- * 17. Forschler, B. T. and G. M. Evans. 1994. Perimeter treatment strategies using containerized baits to manage Argentine ant, *Iridomyrmex humilis* (Mayr) (Hymenoptera: Formicidae). J. Entomol. Sci. 29:264-267.

- * 18. Forschler, B. T. 1994. Fluorescent spray paint as a topical marker on subterranean termites (Isoptera: Rhinotermitidae). *Sociobiology* 24:27-38.
- * 19. Forschler, B.T. and G. Henderson. 1995. Subterranean termite behavioral reaction to water and survival of inundation: implications for field populations. *Environ. Entomol.* 24:1592-1597.
- * 20. Forschler, B.T. and J.C. Ryder Jr. 1996. Subterranean termite *Reticulitermes* spp. (Isoptera: Rhinotermitidae) colony response to baiting with hexaflumuron using a prototype commercial termite baiting system. *J. Environ. Sci.* 31: 143-151.
- * 21. Forschler, B. T. and Monica L. Townsend. 1996. Mortality of Eastern Subterranean Termites (Isoptera: Rhinotermitidae) exposed to four soils treated with termiticides. *J. Econ. Entomol.* 89: 678-681.
- * 22. Forschler, B.T., and Monica L. Townsend. 1996. Mark-Release-Recapture estimates of *Reticulitermes* spp. (Isoptera: Rhinotermitidae) subterranean termite colony populations from Georgia, USA. *Environ. Entomol.* 25: 952-962.
- * 23. Thorne, B.L., E. Russek-Cohen, B.T. Forschler, N.L. Breisch, and J.F.A. Traniello. 1996. Evaluation of mark-release-recapture methods for estimating forager population size of subterranean termite (Isoptera: Rhinotermitidae) colonies. *Environ. Entomol.* 25: 949-961.
- * 24. Forschler, B.T. 1996. Incidence of feeding by the eastern subterranean termite (Isoptera: Rhinotermitidae) in laboratory bioassay. *Sociobiology* 28: 265-273.
- * 25. Forschler, B.T. 1996. Baiting *Reticulitermes* (Isoptera: Rhinotermitidae) field colonies with abamectin and zinc borate treated cellulose in Georgia. *Sociobiology* 28: 459-485.
- * 26. Haverty, M.I., B.T. Forschler, and L.J. Nelson. 1996. Reassessment of the chemical taxonomy of *Reticulitermes* from the southeastern United States. *Sociobiology* 28: 287-318.
- * 27. Blachly, J.S. and B.T. Forschler. 1996. Suppression of late-season Argentine ant (Hymenoptera: Formicidae) field populations using a perimeter treatment with containerized baits. *J. Econ. Entomol.* 89:1497-1500.
- * 28. Henderson, G. and B.T. Forschler. 1996. Termite bait screening using naturally-infested trees. Pp. 449-458. *In: Proc. 2nd Inter. Conf. Insect Pests in the Urban Environment*, K.B. Wildey (ed.)
- * 29. Myles, T.G., B.H. Strack, and B.T. Forschler. 1998. Distribution and abundance of *Antennopsis gallica* (Hyphomycetes: Gleohastriales), an ectoparasitic fungus on the eastern subterranean termite in Canada. *J. Invertebr. Pathol.* 72:132-137.

- * 30. Polizzi, J.M. and B.T. Forschler. 1998. Intra and interspecific agonism in *Reticulitermes flavipes* (Kollar) and *R. virginicus* (Banks) and effects of arena and group size in laboratory assays. *Insectes Sociaux* 45: 43-49.
- *31. Jenkins, T.M., C.J. Basten, R. Dean, S.E. Mitchell, S. Kresovich, and B.T. Forschler. 1999. Matriarchal genetic structure of *Reticulitermes* (Isoptera: Rhinotermitidae) populations. *Sociobiology* 33: 239-263.
- *32. Polizzi, J.M. and B.T. Forschler. 1999. Factors that affect aggression among the worker caste of *Reticulitermes* spp. subterranean termites (Isoptera: Rhinotermitidae). *J. Insect Behavior*. 12: 133-146.
- * 33. Haverty, M.I., L.J. Nelson, and B.T. Forschler. 1999. New cuticular hydrocarbon phenotypes of *Reticulitermes* (Isoptera: Rhinotermitidae) from the United States. *Sociobiology*. 34: 1-21.
- *34. Jenkins, T.M., C.J. Basten, S. Kresovich, and B.T. Forschler. 1999. Maternal genetic structure of colonies in *Reticulitermes* (Isoptera: Rhinotermitidae). *Sociobiology*. 34: 161-172.
- **35. Forschler, B.T. and W.H. Robinson. 1999. Ants and termites in the urban environment: The terminology of population management control tactics. *In: Proc. 3rd Inter. Conf. On Insect Pests in the Urban Environment*, K.B. Wildey (ed.) pp. 589-595.
- *36. Polizzi, J.M. and B.T. Forschler. 1999. Lack of preference by *Reticulitermes* spp. (Isoptera: Rhinotermitidae) for termite feeding stations with previous termite exposure. *J. of Agri. and Urban Entomol.* 16: 197-205.
- *37. Jenkins, T.M., C.J. Basten, M.I. Haverty, L.J. Nelson, M. Page and B.T. Forschler. 2000. Correlation of mitochondrial haplotypes with cuticular hydrocarbon phenotypes of sympatric *Reticulitermes* species (Isoptera: Rhinotermitidae) from the southeastern United States. *J. Chem. Ecol.* 26: 1525-1542.
- **38. Forschler, B.T. and T.M. Jenkins. 2000. Evaluation of subterranean termite biology using genetic, chemotaxonomic, and morphometric markers and ecological data: A testimonial for multi-disciplinary efforts. *Research Trends: Trends in Entomology*. 2: 71-80.
- *39. Singer, T. and B.T. Forschler. 2000. Influence of guidelines and passageways on tunneling behavior of the subterranean termites, *Reticulitermes flavipes* and *R. virginicus* (Isoptera: Rhinotermitidae). *J. Insect Behav.* 13: 273-290.

- *40. Thorne, B.L. and B.T. Forschler. 2000. Criteria for assessing efficacy of a stand alone termite bait treatment. *Sociobiology*. 36: 245-255.
- *41. Forschler, B.T., J. Harron, and T.M. Jenkins. 2001. Case histories involving the Formosan subterranean termite in Atlanta, Georgia, USA. *Sociobiology* 37: 311-322.
- *42. Nelson, L.J., L.G. Cool, B.T. Forschler, and M.I. Haverty. 2001. Correspondence of soldier defense secretion mixtures with cuticular hydrocarbon phenotypes for chemotaxonomy of the termite genus *Reticulitermes* in North America. *J. Chem. Ecol.* 27:1449-1479.
- *43. Scheffrahn, R.H., N-Y. Su, J.A. Chase, and B.T. Forschler. 2001. New termite (Isoptera: Kalotermitidae, Rhinotermitidae) records from Georgia. *J. Entomol. Sci.* 36: 109-113.
- *44. Jenkins, T.M., R.E. Dean, R. Verkerk, and B.T. Forschler. 2001. Phylogenetic analyses of two mitochondrial and one nuclear intron region illuminate European subterranean termite (Isoptera: Rhinotermitidae) taxonomy and gene flow. *Molecular Phylogenetics and Evolution*. 20:286-293.
- *45. Forschler, B.T. and T.M. Jenkins. 2001. Subterranean termites in the urban landscape: Understanding their social structure is the key to successfully implementing population management using baiting technology. *Urban Ecosystems* 4: 231-252.
- *46. Jenkins, T.M., R.E. Dean, and B.T. Forschler. 2002. DNA technology, interstate commerce, and the likely origin of Formosan subterranean termite (Isoptera: Rhinotermitidae) infestations in Atlanta, Georgia. *J. Econ. Entomol.* 95: 381-389.
- *47. Page, M., L.J. Nelson, B.T. Forschler, and M.I. Haverty. 2002. Cuticular hydrocarbons suggest three lineages in *Reticulitermes* (Isoptera: Rhinotermitidae) from North America. *Comp. Biochem. Physiol. B*. 131: 305-324.
- *48. Blaske, Verena-Ulrike, H. Hertel and B.T. Forschler. 2003. Repellent effects of isoborneol on subterranean termites (Isoptera: Rhinotermitidae) in soils of different composition. *J. Econ. Entomol.* 96: 1267-1274.
- *49. Forschler, B.T. 2003. Introduction to the symposium on IPM in urban entomology. *Proceedings of the IPM in Urban Entomology Symposium from the 2001 Annual Meeting of the ESA*. *J. Entomol. Sci.* 38: 149-150.
- *50. Grube, S. and B.T. Forschler. 2004. Census of monogyne and polygyne laboratory colonies illuminates the dynamics of population growth in *Reticulitermes flavipes* Kollar (Isoptera; Rhinotermitidae). *Ann. Entomol. Soc. Am.* 97: 466-475

Bulletins, Reports and Proceedings:**Abstracts:**

1. Forschler B.T., G.M. Evans, and J.S. Blachly. 1994. Containerized ant baits used in a perimeter treatment strategy can control Argentine ants. Proceedings of The 12th World Congress on Social Insects. (Paris, France)
2. Forschler B.T., and M.L. Townsend. 1994. Data from the laboratory and field provide evidence that rainfall can effect subterranean termite populations. Proceedings of The National Conference on Urban Entomology. (Atlanta, Georgia)
3. Forschler B.T. 1995. Development of a successful control strategy against Argentine ant based on key aspects of the pests life history. V International Symposia on Pest Ants. (San Antonio, Texas)
4. Forschler B.T., B.L. Thorne, and M.L. Townsend. 1996. Mark-release-recapture experiments with field populations of *Reticulitermes* spp. (Isoptera: Rhinotermitidae) in Georgia, USA. Proceedings of The National Conference on Urban Entomology. (Arlington, Texas)
5. Polizzi, J. and B.T. Forschler. 1996. Inter and intraspecific agonism bioassays with *Reticulitermes* spp.: effect of arena size and number of termites per arena. Proceedings of The National Conference on Urban Entomology. (Arlington, Texas)
6. Haverty, M.I., B.T. Forschler, L.J. Nelson, L.G. Cool, and M. Page. 1996. Species determination in *Reticulitermes*: correlation of cuticular hydrocarbons and soldier defense secretions. Proceedings of The National Conference on Urban Entomology. (Arlington, Texas)
7. Jenkins, T.M. and B.T. Forschler. 1998. Phylogenetic diversity and geographic structure of sympatric species of *Reticulitermes* (Isoptera: Rhinotermitidae): a maternal perspective. Proceedings of The National Conference on Urban Entomology. (San Diego, CA)
8. Forschler, B.T. and V. Jelks. 1998. Laboratory examination of Bio-BlastTM biological termiticide against *Reticulitermes* spp. (Isoptera: Rhinotermitidae). Proceedings of The National Conference on Urban Entomology. (San Diego, CA)

9. Forschler, B.T. and E. Chiao. 1998. Field and laboratory tests of sulfluramid treated cardboard and Firstline termite baits. Proceedings of The National Conference on Urban Entomology. (San Diego, CA)
10. Forschler, B.T. 1998. Subterranean termite (Rhinotermitidae) movement between feeding sites as determined by mark-release-recapture and wood consumption rates. Proceedings of the 13th International Congress of the International Union for the Study of Social Insects. (Adelaide, Australia)
11. Jenkins, T.M. and B.T. Forschler. 1998. Population genetics of *Reticulitermes* in the United States. Proceedings of the 13th International Congress of the International Union for the Study of Social Insects. (Adelaide, Australia)
12. Forschler, B.T. and T.M. Jenkins. 2000. Mark release recapture field data combined with mitochondrial genotypes indicate a dynamic social structure for *Reticulitermes* spp. Proceedings of The National Conference on Urban Entomology. (Ft. Lauderdale, FL)
13. Jenkins, T.M. and B.T. Forschler. 2000. AFLP DNA fingerprint: a novel PCR-based technology for studing genetic relationships in subterranean temrites. Proceedings of The National Conference on Urban Entomology. (Ft. Lauderdale, FL)
14. Forschler, B.T. 2000. Microbial control of termites in the United States. Proceedings of the International Congress of Entomology. (Iguassu Falls, Brazil)
15. Oi, F. and B.T. Forschler. 2000. An integrated management approach for controlling termites in the urban areas of North America. Proceedings of the International Congress of Entomology. (Iguassu Falls, Brazil)
16. Jenkins, T.M., R. Verkerk, and B.T. Forschler. 2000. DNA sequence data used to validate species taxonomy and origin of UK subterranean termite (Isoptera: Rhinotermitidae) infestation. Proceedings of the International Congress of Entomology. (Iguassu Falls, Brazil)
17. Forschler, B.T. 2000. Deciphering colony structure of *Reticulitermes* field populations in the southeastern United States using multi-disciplinary research. Proceedings of the International Union for the Study of Social Insects, French Chapter Annual Meeting. (Dijon, France)
18. Forschler, B.T. 2001. The Formosan termite in Georgia, USA. Program and Abstracts from the Second International Symposium on *Coptotermes formosanus*. (New Orleans, Louisiana)
19. Jenkins, T.M., M.L. Newman and B.T. Forschler. 2002. Subterranean termite

- movements and relationships over time: A genetic characterization. Proceedings of the 4th International Conference on Urban Pests. (Charleston, South Carolina)
20. Forschler, B.T. 2003. Introduction to the symposium on IPM in urban entomology. Proceedings of the IPM in Urban Entomology Symposium from the 2001 Annual Meeting of the ESA. The Journal of Entomological Science 38: 149-150. (San Diego, California)

Bulletins:

1. Forschler, B.T. 1994. These termites are different: biology and control of the Formosan subterranean termite. Profile. vol. 28 no.4, pgs 8-10.
2. Forschler, B.T. 1996. Controlling ants: lessons from Argentine ant research in Georgia. Profile. vol. 30 no.2, pgs 2, 13-14.
3. Alexander, R., L. Weyer, and B.T. Forschler. 1997. TERMITES! An action plan for identification, eradication, baiting, prevention. Univ. Georgia Cooperative Extension.
4. Forschler, B.T. 2000. Bug of the month, Subterranean Termites. Profile. vol. 34 no.3, pg 18.

Works submitted but not yet accepted:

1. Durkin, S. G. and B.T. Forschler. Sex ratios of *Reticulitermes* spp. (Isoptera: Rhinotermitidae) populations collected from established field sites over a one-year period. Submitted to *Sociobiology* 1/04.
2. Lewis, J. and B.T. Forschler. Techniques for enumerating hindgut protists from subterranean termites (Isoptera: Rhinotermitidae). Submitted to *Ann. Entomol. Soc. Am.* 1/04

Other Publications:

1. Forschler, B.T., G.K. Storey, and J.V. Maddox. 1992. Proceedings of the Arthropod Microorganisms Panel. *In: Regulations and Guidelines: Critical Issues in Biological Control.* Proceedings of a USDA/CSRS National Workshop, June 10-12, 1991, Vienna, VA. R. Charudattan and H.W. Browning, Eds. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611. pp. 181-815.

2. Nolan, M.P. and B.T. Forschler. 1996. Household and structural insects. In: Summary and losses from insect damage and costs of control in Georgia, 1995. R.M. McPherson, G.K. Douce, and D.G. Riley (eds.) Georgia Agri. Exp. Stat., College of Agricultural and Environmental Science, University of Georgia, Special Publication Number 90, October 1996. pp.15-16.
3. Forschler, B.T. and J.C. Ryder, Jr. 1996. Subterranean termite colony response to baiting with hexaflumuron in Georgia. *Down to Earth*. 51(1): 30-35.
4. B.T. Forschler and B. Sparks. 1997. Household and structural insects. In: Summary and losses from insect damage and costs of control in Georgia, 1996. R.M. McPherson, G.K. Douce, and D.G. Riley (eds.) Georgia Agri. Exp. Stat., College of Agricultural and Environmental Science, University of Georgia, Special Publication Number 90, October 1997. pp.15-16.
5. B.T. Forschler, and B.L. Sparks. 1997. Public health and recreational area insects. In: Summary and losses from insect damage and costs of control in Georgia, 1995. R.M. McPherson, G.K. Douce, and D.G. Riley (eds.) Georgia Agri. Exp. Stat., College of Agricultural and Environmental Science, University of Georgia, Special Publication Number 90, October 1997. pp.15-16.
6. Forschler, B.T. and V.R. Lewis. 1997. Why termites can dodge your treatment. *Pest Control*. 65(2): 42-46, 53.
7. Forschler, B.T. 1997. A prescription for ant control success. *Pest Control* 65(6): 56-60.
8. Henderson, G. and B.T. Forschler. 1997. Termite bait tests. *Louisiana Agriculture*. 40(3): 9-11.
9. Forschler, B.T. 1998. Termite baiting: a research perspective. *Pest Control Technology*. 26(6): 90, 92, 94, 96, 98-99.
10. Forschler, B.T., J. Harron, and T.M. Jenkins. 2000. Case histories involving attempts at identifying infestations, determining the source and controlling the Formosan subterranean termites in Atlanta, Georgia, USA. The International Research Group on Wood Preservation. Stockholm, Sweden. Document No. IRG/WP 00-10342. 11 p.
11. Forschler, B.T. 2000. Baits and termite baiting technology: theory and practice. *Proceedings of the Residential Construction Materials and Practices to Protect Homes from Formosan Subterranean Termite Conference*. LSU Agri. Publication, Baton Rouge, LA.
12. Forschler, B.T. 2000. Termites as structural pests in North America. In: Report

- of the Termite Biology and Management Workshop, sponsored by the United Nations Environmental Programme (UNEP), FAO Plant Protection Service, and Global IPM Facility; 2000 February 1-3; Geneva, Switzerland. Geneva: UNEP Chemicals: 27-29.
13. Forschler, B.T. 2001. The theory and practice of termite baiting. Pest Control Magazine.
 14. Forschler, B.T. and J. Gauntt. 2001. Transportation of termite infestations in wood products: Lessons from the Formosan termite experience in Georgia. Proceedings American Wood-Preservers' Association Symposium entitled "Managing the treated wood resource: recycle and reuse of treated wood." AWPA Annual meeting Minneapolis, Minnesota.
 15. Forschler, B.T., S.C. Jones, D. Suiter, R. Gold, G. Henderson, B. Kard, P. Baker, D. Jackson, and H. Howell. 2002. Termite control is a process not an event. Pest Control Magazine 70(2): 36-40.
 16. Forschler, B.T. 2002. Termite baits have promise – and limitations. Pest Control Magazine. 70(4): 22-24.

B. Cooperative Research Projects:

C. Grants/Contracts Received:

Grants:

- | | |
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| 1991 | USDA/CSRS Special Grants Program; Urban insect pest management; Co-principal Investigator; \$72,048. |
| 1992 | USDA/CSRS Special Grants Program; Urban insect pest management; Co-principal Investigator; \$71,939. |
| 1993 | USDA/CSRS Special Grants Program; Urban insect pest management; Co-principal Investigator; \$71,988. |
| 1994 | USDA/CSRS Special Grants Program; Urban insect pest management; Co-principal Investigator; \$71,760. |
| 1995 | USDA/CSRS Special Grants Program; Urban insect pest management; Co-principal Investigator; \$60,121. |

- 1996 USDA/CSRS Special Grants Program; Urban insect pest management; Co-principal Investigator; \$60,144.
- 1997 USDA/CSRS Special Grants Program; Integrated pest management of subterranean termites; Principal Investigator; \$59,825.
- 1998 USDA/CSRS Special Grants Program; Integrated pest management of subterranean termites; Principal Investigator; \$59,825.
- 1999 USDA/CSRS Special Grants Program; Integrated pest management of subterranean termites; Principal Investigator; \$59,878.
- 2000 USDA/CSRS Special Grants Program; Integrated pest management of subterranean termites; Principal Investigator; \$59,872.
- 1993-95 National Geographic Society; Field biology of the Eastern subterranean termite in the Southeastern United States; Principal Investigator; \$9,000.
- 1993-1994 S.C. Johnson & Son Inc. R&D Fellowship Program; Seasonal food preference of the Argentine ant in an urban environment; Co-Principal Investigator; \$10,000.
- 1997 USDA Forest Service; Genetic similarity of cuticular hydrocarbon phenotypes of *Reticulitermes* in Georgia. Co-Principal Investigator; \$23,500.
- 1998-2001 USDA Forest Service; Impact of coarse woody debris removal on subterranean termite diversity and abundance. Principal Investigator; \$25,000.
- 1998-2001 USDA Forest Service; Relationship of coarse woody debris to red cockaded woodpecker prey abundance. Co-Principal Investigator; \$24,000.
- 2001-2005 USDA Forest Service; Effects of fuel reduction treatments in southern forest ecosystems on pollinators. Co-Principal Investigator; \$78,000.

Industry Contracts:

1989 Biosys	\$ 2,000
1992 DowElanco	15,000
1992 Mobay	5,000
1992 S.C. Johnson & Son Inc.	6,000
1992 Whitmire	2,000
1993 Mobay	10,000
1993 DowElanco	45,000

1993	Whitmire	15,000
1993	FMC	12,000
1993	Micro-Gen Equipment Corp.	3,000
1994	DowElanco	40,000
1994	Ciba-Geigy	15,000
1994	Whitmire	15,000
1994	Zeneca	10,000
1994	Miles	15,000
1994	FMC	12,000
1994	S.C. Johnson & Son Inc.	3,000
1995	DowElanco	40,000
1995	Miles	10,000
1995	Whitmire	12,000
1995	Ensystex	3,000
1995	Ciba-Geigy	8,000
1995	American Cyanamid	16,000
1995	Rhone-Poulenc	9,000
1996	Ciba-Giegy	30,000
1996	Rhone-Poulenc	10,000
1996	Whitmire	12,000
1996	Bayer	6,000
1997	Rhone-Poulenc	10,000
1997	Whitmire-MicroGen	3,000
1997	FMC	12,000
1998	Novartis	20,000
1998	Whitmire-MicroGen	16,000
1998	Rhone-Poulenc	12,000
1999	Rhone-Poulenc	16,000
1999	American Cyanamid	20,000
1999	Zeneca	20,000
1999	U.S. Borax	15,000
1999	FMC	18,000
1999	EcoScience/VWR	12,000
1999	Whitmire-MicroGen	12,000
2000	Bayer	7,000
2000	FMC	10,000
2000	Whitmire-MicroGen	3,000
2000	Aventis	48,000
2000	American Cyanamid	15,000
2001	Bayer	8,000
2001	FMC	16,000
2001	Whitmire-MicroGen	12,000
2001	Aventis	52,000
2001	American Cyanamid	18,000
2001	Sygneta	24,000
2002	Whitmire-MicroGen	20,000

2002	FMC	15,000
2002	Dupont	15,000
2002	Syngenta	10,000
2003	Whitmire-MicroGen	20,000
2003	FMC	20,000
2003	Dupont	20,000
2003	Syngenta	10,000
2003	BASF	15,000
2004	Whitmire-MicroGen	20,000
2004	FMC	8,000
2004	Bayer	10,000
2004	Dupont	25,000
2004	Syngenta	5,000
2004	BASF	15,000

D. Recognition and Outstanding Achievements:

1993 University Recognition Program Award from
Orkin Pest Control. \$3,000.

1994 University Recognition Program Award from
Orkin Pest Control. \$3,000.

1996 University Recognition Program Award from
Orkin Pest Control. \$3,000.

1998 Honorary Member of the Georgia Pest Control Association

1998 University Recognition Program Award from
Orkin Pest Control. \$3,000.

1999 University Recognition Program Award from
Orkin Pest Control. \$3,000.

2000 Georgia Pest Control Association Presidents Award for
Outstanding Contributions to the Pest Control Industry.

2000 University Recognition Program Award from
Orkin Pest Control. \$3,000.

E. Areas in Which Research is Conducted:

The overall mission of research addressed by the Household and Structural Entomology program is the development of decision criteria that provide for efficacious, cost effective, and environmentally sound management of insect pests associated with buildings in rural and urban settings. Specific objectives address acquisition of biological and ecological information on household and structural arthropod pests, quantification of the biological activity of alternative and conventional control agents, evaluation of control agents and delivery system efficacy, and monitoring the environmental fate of control agents applied to manage household, industrial and institutional insect pests.

The development of management procedures for arthropods associated with human dwellings is complicated by the variety of habitats man provides through different construction practices, the diversity and adaptability of the insect fauna capable of co-habitation, and varied individual and societal tolerance for insects. Since this research program cannot address all of the insect pest problems associated with households and structures, only two major groups of arthropods have been selected for in-depth investigation. A survey of pest control operators in Georgia found termites and ants to be the arthropod pests most difficult to manage. Termites alone cause damage estimated at above \$20 million per year in Georgia and cost Georgians another \$67 million annually in preventative and remedial treatments. The latest EPA National Home and Garden Pesticide Use Survey lists ants as the number one pest in single family dwellings.

A termites cryptic lifestyle and the efficacy of the now banned cyclodiene insecticides are often blamed for the lack of research data concerning the biology of subterranean termites in the field. My research with termites has included characterization of foraging territories, population estimates, and wood consumption rates for termite colonies representing three species of subterranean termite known to infest structures in Georgia. Other field research examines the ecological factors influencing the distribution and abundance of subterranean termite colonies in four different soil types, as well as, establishing protocols and methodologies for locating termite infestations. Laboratory studies of termite foraging behavior are being conducted to understand how termites locate, choose, and exploit potential food substrates. These ecological studies in addition to work using genetic, chemotaxonomic, and morphometric data are designed to elucidate the social structure and species complex of the sympatric species of subterranean termites found in Georgia and will aid in development of environmentally sound management procedures. Recent work has demonstrated that subterranean termite societies are polygynous (primary), that a single feeding site can be simultaneously occupied by more than one species, and that at least one undescribed species is endemic to the Southeastern United States.

Conventional termite control usually involves application of a termiticide soil barrier around structures to prevent termite infestation. Research with control agents and delivery systems has included studies on termite response to termiticide soil barriers containing gaps of untreated soil. Tests with 26 different cellulose based substrates has identified several materials which are currently being tested as delivery matrixes for slow-acting termite toxicants as well as field testing of various toxic bait strategies for termite population suppression. In addition, multidisiplinary studies of the taxonomic

status and social organization of these economically important social insect pests are also underway.

Peridomestic ants are a diverse group of social insect pests that can become a persistent nuisance in homes, hospitals, and businesses. Development of effective management procedures for pest ants requires specific biological information on each species. Argentine ants are regarded as the single most common ant pest in and around homes in Georgia. A perimeter treatment strategy was developed using containerized ant baits that provided season-long control of Argentine ants in an apartment complex. This tactic lured the ants outside of the apartments and eliminated the need to apply chemical insecticides within the buildings for ant control.

F. Supervision of Student Research

Postdoctorates:

Douglas Butts, 1995-1997
Theresa Singer, 1997-1998
Tracie Jenkins, 1996-2000
Sabine Grube, 2001- 2003
Verena Blaske, 2001- 2002

PhD. Candidates:

Andrew Nuss 2003-Present

Masters Candidates:

Jeanine Blachly, 1993-1996
Janine Polizzi, 1995-1997
Jennifer Lewis, 2001- 2003
Timothy Arquette, 2002-Present
Jeffery Whitman, 2002-Present

Undergraduates:

Tracey Small, 1998-1999 (DNA extraction and PCR technique with termites)
Sandra Durkin, 1998-2001 (Sex ratio of worker and soldier termite castes)
Chad Guinn, 2000-2001 (Termite tunneling in non-repellent termiticides)
Michael Zecher, 2000-2001 (Termite response to tung nut extracts)
Reginald Gibb, 2000- 2001 (Termite interaction with boric acid-treated paper)

Service on advisory examining and reading committees:

G. Michael Evans, M.S. candidate in IPPM at UGA, 1992
Guy Shelton, PhD. candidate at Auburn University 1996-2000
Amanda Hall, Ph.D candidate at UGA 1998-present
Scott Horn, M.S. candidate at UGA 1998-2001
Reid Ipser, Ph.D. candidate at UGA 1998-present

G. Membership in professional societies:

Entomological Society of America
Society of Invertebrate Pathology
Georgia Entomological Society
Georgia Pest Control Association
Pi Chi Omega
International Union for the Study of Social Insects
Isopterist Society

H. Papers Presented at Professional Meetings:

* Denotes papers with a published counterpart in a refereed journal
** Denotes invited presentations

a. International:

- **1. Forschler B.T., G.M. Evans, and J.S. Blachly. 1994. Containerized ant baits used in a perimeter treatment strategy can control Argentine ants. 12th World Congress on Social Insects. (Paris, France)
- **2. Forschler, B.T. 1994. Reduced pesticide control strategies against the Argentine ant, an introduced pest. Second International Conference on Exotic Ants. (Lausanne, Switzerland)
- **3. Forschler, B.T. 1995. Development of a successful control strategy against Argentine ant based on key aspects of the pest's life history. Third International Conference on Exotic Ants. (San Antonio, Texas)
- **4. Forschler, B.T. 1998. Microbial control of subterranean termites in the United States. 6th Symposium on Biological Control. (Rio de Janeiro, Brazil)
- 5. Page, M., L.J. Nelson, M.I. Haverty, B.T. Forschler. 1998. Cuticular hydrocarbons suggest three lineages of *Reticulitermes* in North America. 15th Annual Meeting of the International Society of Chemical Ecology. (Ithaca, New York)
- 6. M.I. Haverty, L.J. Nelson, B.T. Forschler, L.G. Cool, and M. Page. 1998. Cuticular hydrocarbons and soldier defense secretions for chemotaxonomy of *Reticulitermes* in North America. 15th Annual Meeting of the International Society of Chemical Ecology. (Ithaca, New York)
- **7. B.T. Forschler. 1999. Subterranean termite (Rhinotermitidae) movement

- between feeding sites as determined by mark-release-recapture and wood consumption rates. 13th International Congress of the International Union for the Study of Social Insects (Adelaide, Australia)
- **8. Jenkins, T.M. and B.T. Forschler. 1999. Population genetics of *Reticulitermes* in the United States. 13th International Congress of the International Union for the Study of Social Insects (Adelaide, Australia)
 - **9. Forschler, B.T. and W. Robinson. 1999. Ants and termites in the urban environment: The terminology of population management control tactics. 3rd International Conference on Urban Pests. (Prague, Czech Republic)
 - **10. Forschler, B.T. 2000. Termites as structural pests in North America. Termite biology and control workshop. United Nations Environmental Programme and Food and Agriculture Organization. (Geneva, Switzerland)
 - **11. Forschler, B.T., J. Harron, and T.M. Jenkins. 2000. Case histories involving attempts at identifying infestations, determining the source and controlling the Formosan subterranean termites in Atlanta, Georgia, USA. The International Research Group on Wood Preservation. (Kona, Hawaii)
 - **12. Forschler, B.T. 2000. Microbial control of termites in the United States. The International Congress of Entomology. (Iguassu Falls, Brazil)
 - **13. Oi, F. and B.T. Forschler. 2000. An integrated management approach for controlling termites in the urban areas of North America. The International Congress of Entomology. (Iguassu Falls, Brazil)
 - **14. Jenkins, T.M., R. Verkerk, and B.T. Forschler. 2000. DNA sequence data used to validate species taxonomy and origin of UK subterranean termite (Isoptera: Rhinotermitidae) infestation. The International Congress of Entomology. (Iguassu Falls, Brazil)
 - **15. Forschler, B.T. 2000. Deciphering colony structure of *Reticulitermes* field populations in the southeastern United States using multi-disciplinary research. The International Union for the Study of Social Insects, French Chapter Annual Meeting. (Dijon, France)
 - 16. Forschler, B.T. 2001. The Formosan termite in Georgia, USA. The second International symposium on *Coptotermes formosanus*. (New Orleans, Louisiana)
 - 17. Grube, S. and B.T. Forschler. 2001. Incipient colony development of three *Reticulitermes* species – preliminary studies of caste composition and colony size. The International Union for the Study of Social Insects, European Chapter Annual Meeting. (Berlin, Germany)

18. Forschler, B.T. and T.M. Jenkins. 2001. Deciphering the social structure of subterranean termite colonies in the southeastern United States using multidisciplinary research. The International Union for the Study of Social Insects, European Chapter Annual Meeting. (Berlin, Germany)
19. Forschler, B.T. 2001. Termites as structural pests in North America. Second termite biology and control workshop. United Nations Environmental Programme and Food and Agriculture Organization. (Geneva, Switzerland)
- **20. Jenkins, T.M., M.L. Newman and B.T. Forschler. 2002. Subterranean termite movements and relationships over time: A genetic characterization. 4th International Conference on Urban Pests. (Charleston, South Carolina)
21. Jenkins, T.M., D.R. Suiter, B.T. Forschler. 2002. Genetic variation and gene flow of *Coptotermes formosanus* (Isoptera: Rhinotermitidae) in Atlanta Georgia. 4th International Conference on Urban Pests. (Charleston, South Carolina)
22. Jenkins, T.M., T. Meulia, S.C. Jones, B.T. Forschler, S.A. Hogenhout. 2002. *Reticulitermes flavipes* (Isoptera: Rhinotermitidae) and *Drosophila melanogaster* (Diptera: Drosophilidae) share developmental gene sequence. 4th International Conference on Urban Pests. (Charleston, South Carolina)

b. National:

- * 1. Forschler, B.T. and G.L. Nordin. 1986. Susceptibility of carpenterworm, *Prionoxystus robiniae*, (Lepidoptera: Cossidae) to the nematodes, *Steinernema feltiae* and *S. bibionis*. Entomol. Soc. Am. National Mtg. (Reno, Nevada).
- 2. Forschler, B.T., J.A. Hodson, and W.A. Gardner. 1988. A mechanistic simulation model of biotic interactions influencing entomogenous nematodes applied to soil for insect pest suppression. Society of Invertebrate Pathology Ann. Mtg. (San Diego, California).
- * 3. Forschler, B.T., J.N. All, and W.A. Gardner. 1988. Activity and infectivity of the entomogenous nematode *Steinernema feltiae* after exposure to herbicides. Entomol. Soc. Am. National Mtg. (Louisville, Kentucky, Session moderator).
- * 4. Forschler, B.T. and W.A. Gardner. 1989. Field efficacy of entomogenous nematodes against a white grub infestation in bermudagrass turf. Entomol. Soc. Am. National Mtg. (San Antonio, Texas, Session moderator).
- * 5. Forschler, B.T. and W.A. Gardner. 1990. Parasitism of the white grub *Phyllophaga hirticula* by entomogenous nematodes. Entomol. Soc. Am. National Mtg. (New Orleans, Louisiana).

- * 6. Forschler, B.T. 1992. Laboratory bioassay of subterranean termite response to termiticide soil barriers containing gaps of untreated soil. Entomol. Soc. Am. National Mtg. (Baltimore, Maryland).
- 7. Forschler, B.T., A. Gill, and M. Townsend. 1993. Eastern subterranean termite *Reticulitermes flavipes* are preferential feeders but what does this say about foraging activity? Entomol. Soc. Am. National Mtg. (Indianapolis, Indiana).
- * 8. Forschler, B.T. and M.L. Townsend. 1994. Data from the laboratory and field provide evidence that rainfall can effect subterranean termite populations. Nat. Conf. Urban Entomol. (Atlanta, Georgia).
- ** 9. Forschler, B.T., M.L. Townsend, and S.D. Ridgeway. 1994. Efficacy of several termite baiting strategies against *Reticulitermes* species in Georgia. Entomol. Soc. Am. National Mtg. (Dallas, Texas)
- 10. Farmer, M.A., and B.T. Forschler. 1994. Structure of the spiracle in the subterranean termite *Reticulitermes flavipes* (Isoptera: Rhinotermitidae). Poster Presentation. Entomol. Soc. Am. National Mtg. (Dallas, Texas)
- 11. Jarret, R.L., B.T. Forschler and N. Bowen. 1994. Isolation and characterization of microsatellite DNA markers from the Eastern Subterranean termite (Isoptera: Rhinotermitidae). Poster Presentation. Entomol. Soc. Am. National Mtg. (Dallas, Texas)
- * 12. Haverty, M.I., L.J. Nelson, L.G. Cool, B.T. Forschler, M. Page. 1995. Species determination in *Reticulitermes*: Correlation of cuticular hydrocarbons and soldier defense secretions. Entomol. Soc. Am. National Mtg. (Las Vegas, Nevada)
- * 13. Forschler B.T., B.L. Thorne, and M.L. Townsend. 1996. Mark-release-recapture experiments with field populations of *Reticulitermes* spp. (Isoptera: Rhinotermitidae) in Georgia, USA. The National Conference on Urban Entomology. (Arlington, Texas)
- * 14. Polizzi, J. and B.T. Forschler. 1996. Inter and Intraspecific agonism bioassays with *Reticulitermes* spp.: effect of arena size and number of termites per arena. The National Conference on Urban Entomology. (Arlington, Texas)
- * 15. Haverty, M.I., B.T. Forschler, L.J. Nelson, L.G. Cool, and M. Page. 1996. Species determination in *Reticulitermes*: correlation of cuticular hydrocarbons and soldier defense secretions. The National Conference on Urban Entomology. (Arlington, Texas)

- * 16. Forschler, B.T. 1996. Wood consumption rates from field studies with *Reticulitermes* sp. in Georgia. Entomol. Soc. Am. National Mtg. (Louisville, Kentucky)
- * 17. Polizzi, J.M. and B.T. Forschler. 1996. Defensive behavior among subterranean termites in inter- and intraspecific encounters. Entomol. Soc. Am. National Mtg. (Louisville, Kentucky)
- 18. Butts, D.P., B.T. Forschler, S. Mitchell, and S. Kresovich. 1996. Investigations of subterranean termite DNA seeking molecular markers using AFLP techniques. Entomol. Soc. Am. National Mtg. (Louisville, Kentucky)
- *19. Jenkins, T.M. and B.T. Forschler. 1996. Phylogeographic patterns in mitochondrial DNA in the subterranean termite. Entomol. Soc. Am. National Mtg. (Louisville, Kentucky)
- *20. Ryder, J.C. and B.T. Forschler. 1996. Remedial treatment of Formosan subterranean termite in Georgia using hexaflumuron bait. Entomol. Soc. Am. National Mtg. (Louisville, Kentucky)
- *21. Mitchell, S.E., B.T. Forschler, D.P. Butts, and S. Kresovich. 1996. Intra- and interspecific variability in rDNA internal transcribed spacer sequences of *Reticulitermes* (Isoptera: Rhinotermitidae). Entomol. Soc. Am. National Mtg. (Louisville, Kentucky)
- 22. Farmer, M.A., B.T. Forschler, and J.M. Polizzi. 1996. Comparison of the morphology of the tracheae and spiracles in Isoptera. Entomol. Soc. Am. National Mtg. (Louisville, Kentucky)
- *23. Page, M., M.I. Haverty, L.J. Nelson, and B.T. Forschler. 1996. PAUP analysis of cuticular hydrocarbons of *Reticulitermes* species suggest numerous undescribed species: Can we believe these results? Entomol. Soc. Am. National Mtg. (Louisville, Kentucky)
- *24. Jenkins, T.M. and B.T. Forschler. 1997. Genetic structure of subterranean termite (Isoptera: Rhinotermitidae) populations based on maternal lineages. Entomol. Soc. Am. National Mtg. (Nashville, Tennessee)
- **25. Forschler, B.T. 1997. Water relations of termite in Georgia. Entomol. Soc. Am. National Mtg. (Nashville, Tennessee)
- 26. Forschler, B.T. and M. Yates. 1999. Time/exposure bioassay using *Reticulitermes flavipes* (Isoptera: Rhinotermitidae) against four non-repellent insecticides. . Entomol. Soc. Am. National Mtg. (Atlanta, Georgia)

27. Small, T. and B.T. Forschler. 1999. Use of mitochondrial DNA markers for examination of *Retiulitermes* of Georgia, USA. Entomol. Soc. Am. National Mtg. (Atlanta, Georgia)
28. Jenkins, T.M. and B.T. Forschler. 1999. Cytochrome oxidase II gene sequence used to track gene flow in sympatric *Reticulitermes* sp. (Isoptera: Rhinotermitidae) over four soil provinces in Georgia. Entomol. Soc. Am. National Mtg. (Atlanta, Georgia)
29. Durkin, S., and B.T. Forschler. 1999. Sex ratio of *Reticulitermes flavipes* (Isoptera: Rhinotermitidae) workers collected from inspection ports on a Georgia barrier island. Entomol. Soc. Am. National Mtg. (Atlanta, Georgia) Entomol. Soc. Am. National Mtg. (Atlanta, Georgia)
30. Forschler, B.T. and T.M. Jenkins. 2000. Mark release recapture field data combined with mitochondrial genotypes indicate a dynamic social structure for *Reticulitermes* spp. Proceedings of The National Conference on Urban Entomology. (Ft. Lauderdale, Florida)
31. Jenkins, T.M. and B.T. Forschler. 2000. AFLP DNA fingerprint: a novel PCR-based technology for studing genetic relationships in subterranean temrites. Proceedings of The National Conference on Urban Entomology. (Ft. Lauderdale, Florida)
- ** 32. Forschler, B.T. 2000. Baits and termite baiting technology: theory and practice. The first National Meeting for the Residential Construction Materials and Practices to Protect Homes from Formosan Subterranean Termite Conference. (Baton Rouge, Louisiana)
- ** 33. Forschler, B.T. and J. Gauntt. 2001. Transportation of termite infestations in wood products: Lessons from the Formosan termite experience in Georgia. Proceedings American Wood-Preservers' Association Annual meeting (Minneapolis, Minnesota)
- **34. Forschler, B.T. 2001. The dynamics of introducing exotic subterranean termites (Isoptera: Rhinotermitidae) to urban centers: A global problem. Entomol. Soc. Am. National Mtg. (San Diego, California)
34. Grube, S. and B.T. Forschler. 2001. Development and organization of incipient subterranean termite colonies (Isoptera: Rhinotermitidae). Entomol. Soc. Am. National Mtg. (San Diego, California)
35. Jenkins, T.M. and B.T. Forschler. 2001. Subterranean termite gene flow defined with multi-locus DNA fingerprints and mitochondrial sequence. Entomol. Soc. Am. National Mtg. (San Diego, California)

- **36. Forschler, B.T. 2002. Understanding termite biology can use help stop the spread of subterranean termites in the commercial traffic of infested materials. Wood Preservation Society Annual Meeting. (Orlando, Florida)
37. Forschler, B.T. 2002. Utility of the entomogenous fungus *Metarhizium anisopliae* as a biocontrol agent against *Reticulitermes flavipes* and *R. virginicus*. Entomol. Soc. Am. National Mtg. (Ft. Lauderdale, Florida)
38. Lewis, J. and B.T. Forschler. 2002. Changes in protozoa populations in the hindgut of *Reticulitermes flavipes*. Entomol. Soc. Am. National Mtg. (Ft. Lauderdale, Florida)
39. Jenkins, T.M., and B.T. Forschler. 2002. Genetic characterization of *Reticulitermes flavipes* (Isoptera: Rhinotermitidae) from multiple ecological sites in Georgia, USA. Entomol. Soc. Am. National Mtg. (Ft. Lauderdale, Florida)
40. Jones, S.C., T.M. Jenkins, A.B. Nuss, B.T. Forschler. 2002. Morphological and genetic characterization of Ohio *Reticulitermes* species (Isoptera: Rhinotermitidae). Entomol. Soc. Am. National Mtg. (Ft. Lauderdale, Florida)
41. Stabler, L.J. and B.T. Forschler. 2002. First year results from a long-term field study of the efficacy of thiamethoxam against *Reticulitermes* spp. Entomol. Soc. Am. National Mtg. (Ft. Lauderdale, Florida)
42. Grube, S. and B.T. Forschler. 2002. Reproductive strategies in incipient colonies of the eastern subterranean termite *Reticulitermes flavipes*. Entomol. Soc. Am. National Mtg. (Ft. Lauderdale, Florida)
43. Blaeske, V. and B.T. Forschler. 2002. Midgut morphology of *Reticulitermes flavipes* (Isoptera: Rhinotermitidae) with special interest in the peritrophic membrane. Entomol. Soc. Am. National Mtg. (Ft. Lauderdale, Florida)
44. Jenkins, T.M. and B.T. Forschler. 2002. Genetic characterization of *Coptotermes formosanus* (Isoptera: Rhinotermitidae) infestation in Atlanta, Georgia. Entomol. Soc. Am. National Mtg. (Ft. Lauderdale, Florida)
45. Arquette, T., M. Brown, D. Champagne, and B.T. Forschler. 2003. Physiological measures of vigor in *Reticulitermes* species (Isoptera: Rhinotermitidae). Entomol. Soc. Am. National Mtg. (Cincinnati, Ohio).
46. Lewis, J.L., B.T. Forschler. 2003. A comparison of the protist community of three termite caste members between *Reticulitermes flavipes* and *R. virginicus* (Isoptera: Rhinotermitidae) in Georgia. Entomol. Soc. Am. National Mtg. (Cincinnati, Ohio).

47. Suiter, D.R., J.M. Tripp, and B.T. Forschler 2003. Atlanta Formosan termite infestation. Part I: an update on control efforts. Entomol. Soc. Am. National Mtg. (Cincinnati, Ohio).
48. Forschler, B.T., L. Stabler, and T.M. Jenkins. 2003. Case histories examining the efficacy of diflubenzuron incorporated into a cellulose matrix presented to field populations of subterranean termites. Entomol. Soc. Am. National Mtg. (Cincinnati, Ohio).
49. Jenkins, T.M., D.R. Suiter, and B.T. Forschler. 2003. Atlanta Formosan termite infestation. Part II: an update on genetics studies. Entomol. Soc. Am. National Mtg. (Cincinnati, Ohio).
50. Jenkins, T.M. S. Jones, A. Nuss, M.L. Wang and B.T. Forschler. 2003. Molecular genetics survey of Ohio *Reticulitermes* spp. (Isoptera: Rhinotermitidae). Entomol. Soc. Am. National Mtg. (Cincinnati, Ohio).
51. Stabler, L., and B.T. Forschler. 2003. Fun in the field with fipronil. Entomol. Soc. Am. National Mtg. (Cincinnati, Ohio).
52. * Forschler, B.T. 2004. Teaching an urban entomology laboratory course. National Conference on Urban Entomology (Phoenix, Arizona).
53. * Forschler, B.T. 2004. Integrating molecular techniques into the process of termite management. National Conference on Urban Entomology (Phoenix, Arizona).
54. Lewis, J.L. and B.T. Forschler. 2004. The protist community in three species of subterranean termites (Isoptera: Rhinotermitidae). National Conference on Urban Entomology (Phoenix, Arizona).

c. Regional:

- * 1. Forschler, B.T. and G.L. Nordin. 1986. Comparative pathogenicity and use of selected entomopathogens for suppression of the carpenterworm, *Prionoxystus robiniae* (Peck) (Lepidoptera: Cossidae). Entomol. Soc. Am. North Central Branch Mtg. (Minneapolis, Minnesota).
- * 2. Forschler, B.T. and G.L. Nordin. 1986. Investigations of entomogenous nematodes and fungi for suppression of selected insect borers of living southern hardwoods. Annual Southern Forest Insect Work Conference. (Nashville, Tennessee).
- * 3. Forschler, B.T. and G.L. Nordin. 1987. Microbial control of cottonwood borer, *Plectrodera scalator*, in a cottonwood nursery with entomogenous fungi and nematodes. Entomol. Soc. Am. North Central Branch Mtg. (Des Moines, Iowa).

- * 4. Forschler, B.T. and G.L. Nordin. 1988. Impact of separate purposeful applications of entomogenous nematodes and fungi for the suppression of the cottonwood borer, *Plectrodera scalator*. Southeastern Branch Entomol. Soc. Am. Mtg. (Raleigh, North Carolina).
- * 5. Forschler, B.T. and W.A. Gardner. 1990. Persistence of and microarthropod response to the nematode *Steinernema feltiae* applied to hay pasture soils. Entomol. Soc. Am. Southeastern Branch Mtg. (Orlando, Florida, Session moderator).
- ** 6. Forschler, B.T., and G.M. Evans. 1993. Suppression of Argentine ant foraging activity using containerized ant baits in a perimeter treatment strategy. Pacific Entomol. Conf. (Honolulu, Hawaii).
- * 7. Evans, G.M. and B.T. Forschler. 1993. Efficacy of three commercial containerized ant bait formulations for suppression of Argentine ant colonies in the field. Entomol. Soc. Am. Southeastern Branch Mtg. (Little Rock, Arkansas).
- * 8. Forschler, B.T. 1993. Fluorescent spray paint as a topical marker for use in determining subterranean termite foraging territories. Entomol. Soc. Am. Southeastern Branch Mtg. (Little Rock, Arkansas).
- * 9. Forschler, B.T. and M.L. Townsend. 1994. The effect of soil type on termite mortality in termiticide bioassay: evidence for the paradigm of bioavailability. Entomol. Soc. Am. Southeastern Branch Mtg. (Baton Rouge, Louisiana)
- 10. Townsend, M.L. and B.T. Forschler. 1994. The foraging populations and territories of three species of subterranean termite in Georgia. Entomol. Soc. Am. Southeastern Branch Mtg. (Baton Rouge, Louisiana)
- * 11. Blachly, J.S. and B.T. Forschler. 1994. Late season suppression of Argentine ant foraging populations using containerized ant baits in a perimeter treatment strategy. Entomol. Soc. Am. Southeastern Branch Mtg. (Baton Rouge, Louisiana)
- 12. Forschler, B.T., M.L. Townsend, S.D. Ridgeway. 1995. Seasonal and weather related foraging and feeding patterns of subterranean termite colonies from two habitats and four soil zones in Georgia. Entomol. Soc. Am. Southeastern Branch Mtg. (Charleston, South Carolina)
- * 13. Polizzi, J.M. and B.T. Forschler. 1997. Interspecific and intraspecific encounters among subterranean termite workers, *Reticulitermes* spp. Entomol. Soc. Am. Southeastern Branch Mtg. (Asheville, North Carolina)

- * 14. Forschler, B.T. 1997. Subterranean termite feeding behavior: incidence of individual feeding episodes and implications for bait control strategies. Entomol. Soc. Am. Southeastern Branch Mtg. (Asheville, North Carolina)
- 15. Jenkins, T.M. and B.T. Forschler. 1999. Mitochondrial markers enhance field observations to illuminate subterranean termite gene flow. Entomol. Soc. Am. Southeastern Branch Mtg. (Destin, Florida)
- 16. Forschler, B.T. 1999. Termite movement between feeding sites indicated by feeding rates, mark-release-recapture, and genetic sequence data. Entomol. Soc. Am. Southeastern Branch Mtg. (Destin, Florida)
- 17. Jenkins, T.M. and B.T. Forschler. 2001. Termite population structure as defined using AFLP and mtDNA markers. Entomol. Soc. Am. Southeastern Branch Mtg. (Augusta, Georgia)
- 18. Durkin, S.G and B.T. Forschler. 2001. Sex ratio of field collected termite populations from an Atlantic coastal barrier island. Entomol. Soc. Am. Southeastern Branch Mtg. (Augusta, Georgia)
- 19. Yates, M.D. and B.T. Forschler. 2001. Seasonal activity patterns of termite populations in a southern pine forest habitat. Entomol. Soc. Am. Southeastern Branch Mtg. (Augusta, Georgia)
- 20. Jenkins, T.M., D.R. Suiter and B.T. Forschler. 2003. What is the status of the *Coptermes formosanus* (Isoptera: Rhinotermitidae) maternal line that invaded Atlanta. Entomol. Soc. Am. Southeastern Branch Mtg. (Baton Rouge, Louisiana)
- 21. Lewis, J.L. and B.T. Forschler. 2003. Changes in protozoan communities in the Hindgut of lower termites (*Reticulitermes flavipes*). Entomol. Soc. Am. Southeastern Branch Mtg. (Baton Rouge, Louisiana)
- 22. Forschler, B.T. 2003. Subterranean termite activity in a southern pine forest habitat. Entomol. Soc. Am. Southeastern Branch Mtg. (Baton Rouge, Louisiana)
- 23. Grube, S., V.U. Blaeske, and B.T. Forschler. 2003. Ontogenesis and caste ancestry in the genus *Reticulitermes* (Isoptera: Rhinotermitidae) Entomol. Soc. Am. Southeastern Branch Mtg. (Baton Rouge, Louisiana).
- 24. Forschler, B.T. 2004. Termite foraging. Southwestern Forest Insect Work Conference. (San Diego, CA).

d. State:

- * 1. Forschler, B.T., J.N. All, and W.A. Gardner. 1988. Bioassay technique for measuring infectivity of entomogenous nematodes exposed to herbicides. GA Entomol. Soc. (Athens, Georgia).
- 2. Forschler, B.T. 1992. Subterranean termite (Isoptera: Rhinotermitidae) foraging territories in suburban, rural and forest habitats: Preliminary findings. GA Entomol. Soc. (Jekyll Island, Georgia).
- 3. Forschler, B.T. 1993. Population estimates, foraging territories, and wood consumption rates of five subterranean termite colonies. GA Entomol. Soc. (Athens, Georgia).
- 4. Forschler, B.T. 1994. Structure of the spiracle in *Reticulitermes flavipes* and its role in preventing drowning. GA Entomol. Soc. (Charleston, South Carolina).
- * 5. Forschler, B.T. 1995. Mark-Recapture studies with subterranean termites: What can they really tell us about population dynamics in the field? GA Entomol. Soc. (Albany, Georgia).
- 6. Harrison, R., W. Gardner, D. Kinard, B. Forschler. 1995. Entomogenous fungi as repellents and biocontrol agents for subterranean termites. GA Entomol. Soc. (Albany, Georgia).
- 7. Forschler, B.T. 1996. Does termite biology lend itself to baiting as a viable control strategy? GA Entomol. Soc. (Savannah, Georgia)
- * 8. Polizzi, J.M. and B.T. Forschler. 1996. Agonism studies with *Reticulitermes* spp. termites. GA Entomol. Soc. (Savannah, Georgia)
- 9. Butts, D.P., B.T. Forschler, S. Mitchell, and S. Kresovich. 1996. Preliminary investigations of termite DNA. GA Entomol. Soc. (Savannah, Georgia)
- 10. Jenkins, T.M. and B.T. Forschler. 2001. Comparative Mitochondrial and multi-locus diversity in subterranean termites. GA Entomol. Soc. (Gainesville, Georgia)
- 11. Jenkins, T.M. and B.T. Forschler. 2002. Population genetics of subterranean termites using three different techniques. GA Entomol. Soc. (Statesboro, Georgia)

Meetings attended without presentations:

Regional Project S-239: Microbial Control of Insect Pests, (Invited Panelist) 1988-1991

International Symposium on Entomopathogenic Nematodes in Biological Control, 1989

Entomol. Soc. Am. Southeastern Branch Mtg., (Session Moderator) 1991

Entomol. Soc. Am. Southeastern Branch Mtg., (Session Moderator) 1992

Association of Pest Control Regulatory Officials Annual Meeting (Invited Panelist) 1994

Entomol. Soc. Am. Southeastern Branch Mtg. (Student Awards Committee) 1998

Presentations at workshops and training sessions:

a. International:

- ** 1. Forschler, B.T. 1997. Termite biology, baiting and control. Rhone-Poulenc International termite symposium. (Domanine de Divonne, France)
- ** 2. Forschler, B.T. 1998. Termite control in the southeastern United States. Rhone-Poulenc International termite symposium. (Megeve, France)
- ** 3. Forschler, B.T. 1999. Termite biology and control. Adelaide Pest Control Operators Summer training session. (Adelaide, Australia)
- **4. Forschler, B.T. 2001. Termite control in urban environments: Perspective from the United States. United Nations Environmental Programme/Food and Agriculture Organization Expert Group on Termite Biology and Management. Rhinotermitidae workshop. (Geneva, Switzerland)
- **5. Forschler, B.T. 2003. Termite control in the southern United States. Japanese Pest Control Association Annual Meeting. (Kyoto, Japan)

b. National:

- ** 1. Forschler, B.T. 1994. Subterranean termite foraging behavior and effects on baiting. Whitmire Institute of Technology Scientific Symposium & Management Conference. (St. Louis, Missouri)
- ** 2. Forschler, B.T. 1995. Subterranean termite behavior and biology. National Pest Control Association Workshop on Termites and Termite Control for the U.S. Environmental Protection Agency. (Crystal City, Virginia).
- ** 3. Forschler, B.T. 1995. Termite behavior and the problem of retreatment. First National Termite Control Workshop. (Gulfport, Mississippi).
- ** 4. Forschler, B.T. 1995. Termiticide soil residue analysis: problems and solutions for regulatory functions. Association of Pest Control Regulatory Officials Annual Meeting. (Asheville, North Carolina).

- ** 5. Forschler, B.T. 1996. Termite baits: Building block or stumbling block. Whitmire-MicroGen Scientific Symposium and Management Conference. (St. Louis, Missouri)
- ** 6. Forschler, B.T. 1997. Ants and other perimeter pests – a southeastern perspective. Zeneca Professional Products 1997 National PCO Workshop Series. (Chateau Elan, Georgia)
- ** 7. Forschler, B.T. 1998. Subterranean termite baiting technology. 58th Annual National Pest Control Association Eastern Conference. (Cherry Hill, New Jersey)
- ** 8. Forschler, B.T. 1998. Subterranean termites. National Pest Control Association Southern Conference. (Memphis, Tennessee)
- ** 9. Forschler, B.T. 1998. Updates in termite research. 62nd Annual Purdue University Pest Control Conference. (West Lafayette, Indiana)
- ** 10. Forschler, B.T. 1998. Research Report from the University of Georgia. Whitmire MicroGen Scientific Symposium. (San Antonio, Texas)
- ** 11. Forschler, B.T. 1998. Subterranean termite biology in relation to termite control. National Pest Control Association National Conference. (Nashville, Tennessee)
- ** 12. Forschler, B.T., B.L. Thorne, and M.F. Potter. 1998. Into the crystal ball: the future of termite control. National Pest Control Association National Conference. (Nashville, Tennessee)
- ** 13. Forschler, B.T. 1999. Control of Argentine and other tramp ants. Zeneca Professional Products Ant Technology Workshop. (San Antonio, Texas)
- ** 14. Forschler, B.T. 1999. Termite biology. Annual National Meeting of Orkin Pest Control Franchise Managers. (Atlanta, Georgia)
- ** 15. Forschler, B.T. 1999. The future of termite control. Association of Pest Control Regulatory Officials Annual Meeting. (Lexington, Kentucky)
- ** 16. Forschler, B.T. 1999. Research Update. Association of Pest Control Regulatory Officials Annual Meeting. (Lexington, Kentucky)
- ** 17. Forschler, B.T. 1999. Termite biology and control. National Pest Control Association National Conference. (Atlanta, Georgia)
- ** 18. Forschler, B.T. 1999. Termite biology. Sears Pest Control Managers Meeting. (Orlando Florida)

- **19. Forschler, B.T. 2000. Termite biology. Aventis/Pest Control Technology Magazine Round-Table on termite control. (Hamilton, Bermuda)
- **20. Forschler, B.T. 2000. Baits and baiting systems, theory and practice. Technical forum on residential construction practices to resist Formosan subterranean termites. (Baton Rouge, Louisiana)
- **21. Forschler, B.T. 2000. University of Georgia Research Update. Whitmire-MicroGen Institute of Technology Scientific Symposium. (Boston, Massachusetts)
- **22. Forschler, B.T. 2000. Federal Research on Urban Pests: University of Georgia Termite Research. Association of State Pest Control Regulatory Officials Annual Meeting. (Little Rock, Arkansas)
- **23. Forschler, B.T. 2000. Tracking termites with DNA. National Pest Management Association National Meeting. (Las Vegas, Nevada)
- **24. Forschler, B.T. 2001. The process of termite control. National Meeting of Department of Defense and Corp of Engineers Structural Managers Meeting. (Jacksonville, Florida)
- **25. Forschler, B.T. 2001. Research Update from the University of Georgia. Association of State Pest Control Regulatory Officials Annual Meeting. (Ft. Lauderdale, Florida).
- **26. Forschler, B.T. 2001. Termite biology breakthroughs. National Pest Management Association National Meeting. (New Orleans, Louisiana)
- **27. Forschler, B.T. 2001. The great termite bait debate – do they really work. National Pest Management Association National Meeting. (New Orleans, Louisiana)
- **28. Forschler, B.T. 2001. The industries most wanted: Household Pest Control National Pest Management Association National Meeting. (New Orleans, Louisiana)
- **29. Forschler, B.T. 2002. Tracking termites with DNA technology. Association of State Pest Control Regulatory Officials Annual Meeting. (Tunica, Mississippi).
- **30. Forschler, B.T. 2002. Research Update from the University of Georgia. Whitmire-MicroGen Institute of Technology. (Toronto, Canada)
- **31. Forschler, B.T. 2003. Termite research update. Association of Structural Pest Control Regulatory Officials Annual Meeting. (Sacramento, California)

**32. Forschler, B.T. 2003. Regulatory issues: Is Less More? Use patterns and liquid termiticides. National Pest Management Association Annual Meeting. (Dallas, Texas)

**33. Forschler, B.T. 2003. Termite biology and cellulose mulch. Tahoe Tribute II: Amerimulch National Meeting. (Tahoe, Nevada)

c. Out of State:

- ** 1. Forschler, B.T. 1993. Laboratory evaluations of termite behavior. Hawaii Pest Control Association General Membership Mtg. (Honolulu, Hawaii).
- ** 2. Forschler, B.T. 1994. Subterranean termite foraging behavior and effects on baiting. North Carolina Pest Control Association Winter Mtg. (Raleigh, North Carolina).
- ** 3. Forschler, B.T. 1994. Subterranean termites: biology and baiting. Annual field day and workshop, Florida A&M University, Center for Studies in Entomology. (Tallahassee, Florida).
- ** 4. Forschler, B.T. 1996. Termite biology. North Carolina Pest Control Association Annual Winter Meeting. (Raleigh, North Carolina)
- ** 5. Forschler, B.T. 1996. Subterranean termite colony size, foraging patterns, and baiting strategies. North Carolina Pest Control Association Annual Winter Meeting. (Raleigh, North Carolina)
- ** 6. Forschler, B.T. 1996. Subterranean termite biology and baiting. Southeast Pest Management Conference. University of Florida and National Pest Control Association. (Gainesville, Florida)
- ** 7. Forschler, B.T. 1996. New ideas on subterranean termites and control strategies. Tennessee Pest Control Association. (Memphis, Tennessee)
- ** 8. Forschler, B.T. 1996. Gimme some answers! New insights into termites and their control. University of Kentucky Pest Control Short Course. (Lexington, Kentucky)
- ** 9. Forschler, B.T. 1997. Insights into subterranean termite biology and control. LESCO EXPO. (Ft. Myers, Sarasota, Tampa Bay, Florida)
- **10. Forschler, B.T. 1997. Termite control in the next century. Florida Pest Control Association Summer Meeting. (Jacksonville, Florida)
- **11. Forschler, B.T. 1997. Termite Biology. Oklahoma State University Termite Technician Training. (Oklahoma City, Tulsa, Oklahoma)

- **12. Forschler, B.T. 1997. Termicide soil barrier application techniques. Oklahoma State University Termite Technician Training. (Oklahoma City, Tulsa, Oklahoma)
- **13. Forschler, B.T. 1997. Termite biology. Kansas Pest Control Association Winter Meeting. Termite biology and baiting. (Wichita, Kansas)
- **14. Forschler, B.T. 1998. Argentine ant control – research update. Target 26th Annual Seminar and Exhibit. (San Ramon, California)
- **15. Forschler, B.T. 1998. Termite feeding behavior. Target 26th Annual Seminar and Exhibit. (San Ramon, California)
- **16. Forschler, B.T. 1998. Termite biology. Interstate Pest Control Conference. (College Park, Maryland)
- **17. Forschler, B.T. 1998. Termicide efficacy. Interstate Pest Control Conference. (College Park, Maryland)
- **18. Forschler, B.T. 1998. Subterranean termite seasonality and baiting strategies. 48th Annual North Carolina Pest Control Association Winter Meeting. (Raleigh, North Carolina)
- **19. Forschler, B.T. 1998. Infiltrating the underground: subterranean termites and their control. Florida Pest Control Association Annual Convention. (Marco Island, Florida)
- **20. Forschler, B.T. 1998. Subterranean termite behavior relative to control tactics. Florida Pest Control Association Termite Symposium. (Orlando, Florida)
- **21. Forschler, B.T. 1999. Subterranean termite biology and baits. Arkansas Pest Control Association Annual Meeting. (Hot Springs, Arkansas)
- **22. Forschler, B.T. 1999. Controlling subterranean termites. Missouri Pest Control Association Annual Meeting. (St. Louis, Missouri)
- **23. Forschler, B.T. 2000. Subterranean termites and their control. Texas A&M University PCO Pest Management Conference and Workshop. (Bryan, Texas)
- **24. Forschler, B.T. 2000. Cockroach biology and control. Texas A&M University PCO Pest Management Conference and Workshop. (Bryan, Texas)
- **25. Forschler, B.T. 2000. The latest termite research from Georgia. South Carolina Pest Control Operator School. (Columbia, South Carolina)

- **26. Forschler, B.T. 2002. Subterranean termite research. Hawaii Pest Control Conference. (Honolulu, Hawaii).
- **27. Forschler, B.T. 2003. Liquid versus bait treatments for control of subterranean termites. Eastern Conference of the National Pest Management Association. (Atlantic City, New Jersey)
- **28. Forschler, B.T. 2003. How does termite biology fit into the current concept of termite control tactics. University of California Riverside Pest Management Conference. (Riverside, California)
- **29. Forschler, B.T. 2003. Termite biology and its' relation to consistent control. New Jersey Pest Control Association Annual Clambake and Trade Show. (New Brunswick, New Jersey)
- **30. Forschler, B.T. 2003. Termite biology and inspection. Massey Services termite training session. (Orlando, Florida).
- **31. Forschler, B.T. 2004. Termite biology and management. Delaware Pest Control Association Annual meeting. (Wilmington, DE)
- **32. Forschler, B.T. 2004. Termite management in relation to construction. Long Island Pest Control Association. Annual Meeting. (New York, NY)
- **33. Forschler, B.T. 2004. Termite biology. Illinois Pest Control Association Annual Meeting. (Springfield, IL)

d. In State:

- ** 1. Forschler, B.T. 1992. Ants and ant control. GA Pest Control Association Train the Trainer Workshop. (Columbus, Georgia).
- ** 2. Forschler, B.T. 1993. Termite research in Georgia. GA Pest Control Association Winter Mtg. (Athens, Georgia).
- ** 3. Forschler, B.T. 1993. Staying on top of termite control. GA Pest Control Association Recertification Training Course. (Waycross, Tifton, Augusta, Atlanta, Georgia).
- ** 4. Forschler, B.T. 1993. Termites and termite control. GA Pest Control Association Summer Mtg. (Amelia Island, Florida).
- ** 5. Forschler, B.T. 1994. Basic termite control. GA Pest Control Association Winter Mtg. (Athens, Georgia).

- ** 6. Forschler, B.T. 1994. The Formosan subterranean termite. GA Pest Control Association Winter Mtg. (Athens, Georgia).
- ** 7. Forschler, B.T. 1994. Termite Control - Present and Future. GA Pest Control Association Recertification Training Course. (Rome, Vidalia, Augusta, Atlanta, Georgia).
- ** 8. Forschler, B.T. 1995. Subterranean termite biology and baiting technology update. Georgia Pest Control Association Annual Summer Meeting. (Jacksonville, Florida).
- ** 9. Forschler, B.T. 1996. Termite biology. Georgia Pest Control Association Annual Winter Meeting. (Athens, Georgia)
- **10. Forschler, B.T. 1996. Termite bait update. Georgia Pest Control Association Annual Winter Meeting. (Athens, Georgia)
- **11. Forschler, B.T. 1996. New breakthroughs in termite control. Columbus-Phenix City Pest Control Association Spring Seminar. (Columbus, Georgia)
- **12. Forschler, B.T. 1996. New breakthroughs in ant control. Columbus-Phenix City Pest Control Association Spring Seminar. (Columbus, Georgia)
- **13. Forschler, B.T. 1997. Termite baiting strategies and the Formosan termite. Georgia Pest Control Association Summer meeting. (Young Harris, Georgia)
- **14. Forschler, B.T. 1998. Ants. 42nd Annual Georgia Pest Control Association Winter Conference. (Athens, Georgia)
- **15. Forschler, B.T. 1998. Ant control: understanding ant biology is important. Georgia Pest Control Association South Georgia Conference. (Valdosta, Georgia)
- **16. Forschler, B.T. 1999. Subterranean termite control. Georgia Pest Control Association Annual Winter Conference. (Athens, Georgia)
- **17. Forschler, B.T. 1999. General pest ant control tactics. Georgia Pest Control Association Annual Winter Conference. (Athens, Georgia)
- **18. Forschler, B.T. 2000. Baits, barriers or both. Georgia Pest Control Association Annual Winter Conference. (Athens, Georgia)
- **19. Forschler, B.T. 2000. Termite biology. Arrow Exterminators Management meeting. (Atlanta, Georgia)

- **20. Forschler, B.T. 2000. Treating termites. Georgia Pest Control Association Technical School. (Tifton, Georgia)
- **21. Forschler, B.T. 2000. Treating termites. Georgia Pest Control Association Technical School. (Marietta, Georgia)
- **22. Forschler, B.T. 2000. Treating termites. Georgia Pest Control Association Technical School. (Savannah, Georgia)
- **23. Forschler, B.T. 2000. Termite biology and treatment options. Phenix City and Columbus Area Pest Control Association. (Columbus, Georgia)
- **24. Forschler, B.T. 2000. The Formosan Subterranean Termite. Georgia Pest Control Association Southern Conference. (Valdosta, Georgia)
- **25. Forschler, B.T. 2001. Commercial Kitchen Inspection. Georgia Pest Control Association Annual Meeting. (Athens, Georgia)
- **26. Forschler, B.T. 2001. Eliminating re-treats in termite control. Georgia Pest Control Association Annual Meeting. (Athens, Georgia)
- **27. Forschler, B.T. 2001. Tools, techniques and philosophy of subterranean termite control. Georgia Pest Control Association Annual Summer Meeting. (Amelia Island, Florida)
- **28. Forschler, B.T. 2001. Commercial Kitchen Inspection. Georgia Pest Control Association Annual Southern Conference. (Valdosta, Georgia)
- **29. Forschler, B.T. 2002. Cockroach Biology and Control. Georgia Pest Control Association Annual Conference. (Athens, Georgia)
- **30. Forschler, B.T. 2002. Formosan Subterranean Termites. Georgia Pest Control Association Annual Conference. (Athens, Georgia)
- **31. Forschler, B.T. 2004. Termite biology. Georgia Pest Control Association Annual Conference. (Athens, Georgia)
- **32. Forschler, B.T. 2004. Formosan Termite control. Georgia Pest Control Association Annual Conference. (Athens, Georgia)
- **33. Forschler, B.T. 2004. Urban Entomology Update. Georgia Pest Control Association Annual Conference. (Athens, Georgia)
- **34. Forschler, B.T. 2004. Urban Entomology Tour. Georgia Pest Control Association Annual Conference. (Athens, Georgia)

- **35. Forschler, B.T. 2004. Termite biology, control and inspection. EPA Region IV state regulatory inspector training session. (Atlanta, Georgia)

SEMINARS:

University of Florida, Department of Entomology. 1993. Ants and termites in Georgia? A view of the household and structural entomology research program at the University of Georgia.

Georgia Southern University, Department of Biology. 1993. Current research with household and structural insects at the University of Georgia.

S.C. Johnson & Son Inc., Racine, WS. 1993. Ant and termite research at the University of Georgia.

University of Arkansas, Department of Entomology. 1995. Subterranean termite biology, behavior, and baiting.

University of Georgia, Department of Entomology. 1995. Termite biology: Paradigms, paradoxes, and new control technologies.

Clemson University, Department of Entomology. 1996. Casting a wide net: Lessons from the shotgun approach to termite research.

North Carolina State University, Department of Entomology. 1997. Investigations in a dark place: Adventures in interpretation of subterranean termite research data.

Bundesanstalt für Materialforschung und prüfung (BAM) Institute, Berlin, Germany, Wood Destroying Organism Group. 1997. Termite research at the University of Georgia.

Bundesanstalt für Materialforschung und prüfung (BAM) Institute, Berlin, Germany, Wood Destroying Organism Group. 1998. Subterranean termite water relations.

University of Florida, Department of Entomology and Nematology. 1999. Just when you thought you had things all sussed out: Tales of pragmatic dogma and attempts to decipher the biology of a cryptic, eusocial insect.

Oklahoma State University, Department of Entomology and Plant Pathology. 2000. A commentary on research opportunities presented by the proclivity of ant and termite societies for imposing on the human living space.

Louisiana State University, Department of Entomology. 2000. Subterranean termite social structure and the dilemma of interpreting temporal data from a cryptic insect.

Kyoto University, Wood Research Institute. 2003. Research on subterranean termites at the University of Georgia.

Tokyo University, Department of Life Science. 2003. Subterranean termite biology from ecology to gene flow.

4. PUBLIC AND UNIVERSITY SERVICE

A. Public Service

Presentations at Special Meetings and Field Days:

- 4/28/92 Barnesville Rotary Club Mtg. (Barnesville, GA)
- 6/10/92 Airport Area Kwanis Club Mtg. (Atlanta, GA)
- 6/24/93 On-Site training session for State Department of Agriculture Structural Pest Control Division housing inspectors on the Formosan termite (Atlanta, GA)
- 1/17/94 Griffin Board of Realtors (Griffin, GA)
- 3/3/94 Training session for Orkin Pest Control Managers on identification of termites and termite biology.
- 2/16/95 Training session for State Department of Agriculture Structural Pest Control Division housing inspectors on Wood Destroying Organisms (Macon, GA)
- 6/16/95 On-site training session for State Department of Agriculture Structural Pest Control Division housing inspectors on the Formosan termite and baiting technology. (Suwanee, GA)
- 8/22/95 Ag Showcase (Tifton, GA)
- 2/6/96 Pike County Kwanis Mtg. (Zebulon, GA)
- 8/16/96 Ag Showcase (Tifton, GA)
- 9/21/96 Ag Expo (Moultrie, GA)

- 9/9/98 Training sessions for State Department of Agriculture Structural Pest Control Division housing inspectors on termite biology and termiticides. (Griffin, GA)
- 9/22/98 Ag Expo (Moultrie, GA)
- 10/12/98 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 1/21/99 Training sessions for County Extension Agents on termite biology and control. (Rock Eagle, GA)
- 3/11/99 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 3/30/99 Training session for County Extension Agents on termite biology and termiticides. (Griffin, GA)
- 3/30/00 Training sessions for County Extension Agents on termite biology and control. (Rock Eagle, GA)
- 3/25/00 Agriculture Day at the Atlanta Zoo.
- 4/25/00 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 4/47/00 Training session for South Carolina State Pesticide Regulatory Inspectors on termite biology and control. (Athens, GA)
- 4/29/00 Bug day at the Atlanta Zoo. (Atlanta, GA)
- 9/15/00 CAES Tailgate Showcase (Athens, GA)
- 10/17/00 Ag Expo (Moultrie, GA)
- 11/21/00 Covington Rotary Club (Covington, GA)
- 3/25/01 Agriculture Day at the Atlanta Zoo.
- 4/11/01 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 5/10/01 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)

- 10/11/01 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 3/27/02 Training sessions for US EPA Managers and State Inspectors on termite biology and termite inspection. (Griffin, GA)
- 4/13/02 Agriculture Day at the Atlanta Zoo.
- 4/18/02 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 5/02/02 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 9/19/02 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 9/26/02 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 9/18/03 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)
- 9/25/03 Training sessions for Pest Control Operators on termite biology and termiticides. (Athens, GA)
- 10/02/03 Training sessions for Pest Control Operators on termite biology and termiticides. (Griffin, GA)

Interviews:**a. International:**Video:

- 2000 Interviewed by Quincy Russell from *Mona Lisa Productions* for a story on termite biology and control for a documentary for French National Television.

b. National:

Video:

- 1994 Interviewed by Barbara Corey from *CNN Science and Technology Week* for story on termite biology and control.
- 1995 Interviewed by Suzanne Kletch from *Bader-Rudder* for news release on termite baiting.
- 1996 Interviewed by Elana Meers on termite biology for promotional material for *Orkin Pest Control*.
- 1998 Interviewed by Diane Simone and William VanDerKloot of *Little Mammoth Media* for children's video entitled *The Big House*.
- 2000 Interviewed by Carol Beck of *Big Mouth Productions* for homeowner video on termite biology and treatment options.
- 2002 Interviewed by Craig Friedman of CNN for story on household pest control.

Radio:

- 1993 Interviewed by Rob Hilton of WUGA-*National Public Radio* News Division for story on the arrival of the Formosan termite in Georgia, their control, and identification.

Magazine:

- 1993 Interviewed by Boris Weintraub of *National Geographic Magazine* for article on using fluorescent spray paint as a topical marking system on subterranean termites.
- 1994 Interviewed by Kathy Svitil from *Discover Magazine* for story on termite survival following inundation.
- 1995 Interviewed by Suzanne Kletch from Bader-Rudder for story on the Household and Structural Entomology Research Program at the University of Georgia for *Pest Control Technology Magazine*.
- 1995 Interviewed by Susan O'Keefe of *National Geographic Magazine* to verify information concerning termites for story on South American rainforest.
- 1995 Interviewed by Matt Urtman for story on the Georgia Household and Structural Entomology Research Program for a feature article in *Pest Control Technology Magazine*.

- 1995 Interviewed by Harry Katz from *Pest Control Magazine* for article on termite behavior.
- 1994 Interviewed by Anne Wemhoff for story on termite bait technologies for article in *Pest Control Technology Magazine*.
- 1996 Interviewed by Kimberlie Weymouth for article on Premise termiticide for *Pest Control Magazine*.
- 1996 Interviewed by Lisa Josef for article on flea control for *Pest Control Magazine*.
- 1997 Interviewed by Jerry Mix for article on termite control for *Pest Control Magazine*.
- 1997 Interviewed by Dan Moreland of *Pest Control Technology Magazine* for article on flea control.
- 1998 Interviewed by Lisa Josef from *Pest Control Magazine* for article on termiticides.
- 1999 Interviewed by Jerry Mix for article on termite control using diflubenzuron as a bait active ingredient for *Pest Control Magazine*.
- 1999 Interviewed by Dan Moreland of *Pest Control Technology Magazine* for article on Ensystex and termite baiting control strategies.
- 2000 Interviewed by Katy Tomasulo from *Builder Magazine* for article on Formosan termites in Atlanta and potential for spread to other areas.
- 2000 Interviewed by Anita Bartholomew from *Readers Digest Magazine* for article on Formosan termites.
- 2001 Interviewed by Heather Gootch from *Pest Control Magazine* for article on the University of Georgia Urban Entomology Research Programs.
- 2002 Interviewed by Cheri Higley of *Pest Control Magazine* for an article on termite biology and control.

Newspaper:

- 1994 Interviewed by Sue Goetinck from the *Dallas Morning News* for story on termite survival of flood-like conditions.
- 1998 Interviewed by John McQuaid of the *Times-Picayune* from New Orleans, Louisiana for article on the Formosan termite.
- 1998 Interviewed by Saya Oka from *NBC Dateline* for investigative report on the termite control industry.

- 1999 Interviewed by Sandra Fleishman from the *Washington Post* for article on termite biology, control, and building construction.
- 2000 Interviewed by Neil St. Yellow from the *Orlando Sentinel* for article on termite pre-treatment market and construction practices.
- 2000 Interviewed by Patricia Brown from the *New York Times* for article on the Formosan termite in Atlanta and termite movement through commercial traffic.
- 2002 Interviewed by Susan Warren from the Wall Street Journal for article on termite bait technology.
- 2002 Interviewed by Barry Schlacter from the Ft. Worth Star Telegram for article on Formosan subterranean termites.
- 2004 Interviewed by Sandra Fleishman from the Washington Post for article on termite control.

c. State:

Video:

- 1993 Interviewed by Bob Sokoler of *WXIA-TV Atlanta* for story on the first reported Formosan termite infestation in Georgia.
- 1993 Interviewed by Laura Heisner of *Channel 46 News Atlanta* on the control, identification, and threat to Atlanta of the Formosan termite.
- 1994 Interviewed by Mark Pickard from *Channel 11 News Atlanta* on termite survival of flood-like conditions.
- 1997 Interviewed by Bob Jordano of *WSB-TV News Atlanta* on pests in the urban environment.
- 1999 Interviewed by Joe Courson from *CAES Education and Communication Technology* on termite control.
- 2001 Interviewed by Bob Moulder from *CAES Education and Communication Technology* for web-based production to complement the NASLGUC Capital Hill Reception.

Radio:

- 1993 Interviewed by Bob Coxe of *WSB Radio AM 750 Atlanta* on Roaches, their food preferences, and control strategies.

- 1993 Interviewed by Bob Coxe of *WSB Radio AM 750 Atlanta* on an update concerning the Formosan termites in Atlanta.

Newspaper:

- 1993 Interviewed by Tom Rose of the *Savannah Morning News* for article on termite control.
- 1993 Interviewed by Nancy Butts *free-lance journalist* for article on the Georgia Station Mentor Program.
- 1993 Interviewed by Scott Bronstein and Amanda Houston of the *Atlanta Journal Constitution* for article on the appearance of the Formosan termite in Georgia.
- 1993 Interviewed by Helen Fosgate of University of Georgia CAES *Communications Division* for article on Formosan termites.
- 1993 Interviewed by Cheryl Fincher of *The Macon Telegraph* on a follow-up story on the threat to Macon by the Formosan termites in Atlanta.
- 1993 Interviewed by John Edwards of the *Red and Black* in Athens on termite control and the impact of the Formosan termite on Georgia.
- 1993 Interviewed by Paul Kaplan of the *Atlanta Journal Constitution* on a follow-up story on the Formosan termites in Atlanta including termite protection contracts and what a homeowner can do to prevent and identify termite infestations.
- 1994 Interviewed by reporter from the *Banner Herald* on follow-up story on the Formosan termites in Atlanta.
- 1994 Interviewed by Tonya Saunders from the *Atlanta Journal Constitution* on identification and prevention of termite infestations around homes.
- 1994 Interviewed by Sigrid Sanders editor of *ArgriSearch* for article on the Household and Structural Entomology Research.
- 1994 Interviewed by Tim Daly from the *Griffin Daily News* for story on termite biology and control.
- 1995 Interviewed by Karen Swint from the *Griffin Daily News* for story on winning the Orkin Research Award two years running.
- 1995 Interviewed by Walter Jones from the *Griffin Daily News* on story concerning termite swarm season.

- 1995 Interviewed by Park Morgan from the *Atlanta Constitution Journal* for article on termites and termite control.
- 1997 Interviewed by Rob Luke of the *Atlanta Journal Constitution* for article on termite control and the business of pest control.
- 1996 Interviewed by Joan Stroer of *Athens Daily News* for article on government funded research at UGA.
- 2001 Interviewed by Elizabeth Lee of the *Atlanta Journal Constitution* for article on termite control.
- 2001 Interviewed by Judy Purdy of the *University of Georgia Research Reporter* for article on CAES Department of Entomology Household and Structural Research program on subterranean termites.
- 2001 Interviewed by Janis Reid of the *Athens Banner-Herald* for article on termites for the home and garden section.
- 2002 Interviewed by Jim Howell of the *Atlanta Journal Constitution* for article on termites for the home and garden section.
- 2002 Interviewed by Sherry Foster of the *Augusta Magazine* for article on termites.

Manuscripts reviewed for journals/grants for agencies

Manuscripts:

Journal of Invertebrate Pathology
Journal of Entomological Science
Journal of Economic Entomology
Environmental Entomology
Entomological News
Florida Entomologist
Biological Control
Journal of Agricultural and Urban Entomology
Acta Parasitologica
Pan-Pacific Entomologist
Integrated Pest Management Reviews
Journal of Chemical Ecology
Insectes Sociaux
Ecology, Ethology and Evolution
Scientia Agricola
Journal of Soil Science

Grants:

South Carolina Agriculture and Forestry Research System
National Sciences and Engineering Research Council of Canada

B. Administrative Service**University committees:**

The Program Review and Assessment Committee

College committees:

Committee to recommend a single college faculty governance structure

Ag Showcase '97 Committee

Government Performance and Results Act Goal Team

CAES Identity and Policy Standards Committee

D.W. Brooks Teaching Award Selection Committee

CAES Liaison to the Georgia Pest Control Association

Faculty Affairs Committee, Chairman

Faculty Council Member

Department committees:

Curriculum Committee

Student Awards Committee

C. Other University and non-University Activities**a. International:**Organizer:

Symposium entitled "Foraging Behavior" for the 13th International Congress of the Union for the Study of Social Insects Meeting in Adelaide, Australia 1998.

Member:

Organizing Committee for International Conference on Urban Pests. 1999-2001.

United Nations Environmental Programme/Food and Agriculture Organization Expert Group on Termite Biology and Management. Rhinotermitidae subgroup spokesperson. 1999-Present.

b. National:

Organizer:

Cooperative Research Conference for the study of subterranean termite biology, Sapelo Island, Georgia. 1994.

The North American Termite Biology and Control Conference, Nassau, Bahamas. 1996.

Cooperative Research Conference for the study of subterranean termite biology, Sapelo Island, Georgia. 2000.

Symposium entitled "IPM in Urban Entomology" for the Entomological Society of America Annual Meeting, San Diego, California. 2001

Chairman:

Program committee for National Urban Entomology Conference, 1996 - 1999.

Termiticide Scientific Review Panel for the Association of State Pest Control Regulatory Association (ASPCRO), National Pest Management Association (NPMA) and Responsible Industry for a Sound Environment (RISE). 2003-Present

Member:

Society of the Plastics Industry/National Pest Control Association foam-board insulation and termite control solutions committee, 1997-1999.

U.S. Environmental Protection Agency/Association of State Pest Control Regulatory Officials task force for development of efficacy standards for termite bait control products, 1998-present.

Entomological Society of America Nominations Committee, 1998-present.

National Pest Management Association Annual Conference Planning Committee 2001.

Jeffery LaFage Outstanding Student Award Committee for the Entomological Society of America. 2001-present.

Association of State Pest Control Regulatory Officials Termiticide Label Review Committee. 2001 - Present

c. Regional:

Organizer:

Symposium entitled "Urban Entomology in the Southeastern United States" at the ESA Southeastern Branch Meeting in Baton Rouge, LA. 1994.

Symposium entitled "Urban Entomology in the Southeastern United States" at the ESA Southeastern Branch Meeting in Charleston, SC. 1995.

Symposium entitled "Urban Entomology in the Southeastern United States" at the ESA Southeastern Branch Meeting in Augusta, GA. 2001.

Conference entitled "Southeastern Urban Entomology Graduate Student Research Conference" at Reynolds Mansion, Sapelo Island, GA. 2003.

Chairman:

Student Awards Committee for the Southeastern Branch of the Entomological Society of America, 1998-99.

Member:

Student Awards Committee for the Southeastern Branch of the Entomological Society of America, 1996-1999.

d. State:

Chairman:

Membership committee for Georgia Entomological Society, 1995 - 1996.

Program committee for Georgia Pest Control Association Annual Winter Meeting 1996.

Georgia Pest Control Association Career Development Committee, 1998-present.

Member:

Georgia Pest Control Association Long-Range Planning Committee, 1996-present

Student paper competition judge, Georgia Entomological Society, 1992-93

O.I. Snapp Award committee member for Georgia Entomological Society, 1992-95.

Georgia Station Mentor Program, 1993-94. (3 high school students all winners at state science fair)

Academic Advisor:

For Men of Principle Initiative, BθΠ Fraternity, UGA chapter, 1999-2000.

Chapter Counselor:

For Men of Principle Initiative, BθΠ Fraternity, UGA chapter, 2000-Present.

Consulting:

- 1995 *U.S. Department of Defense Criminal Investigation Service and U.S. Justice Department.* Examination of company records in fraud case involving sales of termiticides and termite services on government contract. Case dropped when lawyers for both government agencies (for different personal reasons) left the case.
- 1996 *Association of State Pest Control Regulatory Officials.* Examination of data generated in a two-year study conducted in four states of termiticide residue analysis. Wrote an opinion paper that formed the basis for recommendations for regulatory action based on termiticide residue analysis.
- 1997 *Federal Trade Commission.* Examination of company documents and the scientific literature in case involving advertising claims for United Industries termite bait product Terminate. Case concluded with a fine, recall and instructions for changing product efficacy claims on consumer product.
- 2001 *Proctor and Gamble.* Examination of new technology developed by P&G and report on the potential of said technology toward development of a termite control product.
- 2002 *Meisel and Cohen Properties.* Inspection of the Casa Marina Hotel in Key West, Florida for wood destroying organisms during the due diligence period prior to final sale.
- 2002 Orkin Pest Control, Quality Assurance Department. Inspection of several properties during the discovery phase of customer complaints to provide an unbiased assessment of wood destroying organism damage.

Termite Preference for Compressed α -Cellulose

